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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)		Application Number	10/090,492
		Filing Date	3/4/2002
		First Named Inventor	Timothy A.M. Chuter
		Art Unit	3731
		Examiner Name	Michael H. Thaler
Total Number of Pages in This Submission	16	Attorney Docket Number	ENDOV-55673

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT:

Timothy A.M. Chuter, et al.

SERIAL NO.: 10/090,492

FILED: March 4, 2002

TITLE: ENDOVASCULAR GRAFT DEVICE  
AND METHODS FOR ATTACHING  
COMPONENTS THEREOF

Examiner: Michael H. Thaler

Group Art No.: 3731

Client ID: ENDOV-55673

Date: September 29, 2006

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APPELLANT'S BRIEF

MS: Appeal Brief Patents  
Commissioner for Patents  
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Alexandria, VA 22313-1450

Dear Sir:

This Appellant's Brief is being filed in response to the Advisory Action dated June 15, 2006 which maintained the rejection of the claims set forth in the final Office action dated October 25, 2005. The fees required under 37 CFR § 1.17 are submitted herewith. In the event additional fees are required, authorization is hereby provided to charge our Deposit Account No. 06-2425 any fees due in connection with this paper.

This brief contains items under the following headings, and in the order set forth below:

- I. REAL PARTY IN INTEREST
- II. RELATED APPEALS AND INTERFERENCES
- III. STATUS OF CLAIMS
- IV. STATUS OF AMENDMENTS
- V. SUMMARY OF CLAIMED INVENTION
- VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL
- VII. ARGUMENT
- VIII. CLAIMS APPENDIX
- IX. EVIDENCE APPENDIX
- X. RELATED PROCEEDINGS APPENDIX

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: EndoVascular Technologies, Inc., 3200 Lakeside Drive, Santa Clara, CA 95054, which is a wholly-owned subsidiary of Boston Scientific Corporation, 1 Boston Scientific Place, Natick, MA 01760.

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly effect, or be directly effected by, or have a bearing on the Board's decision on this appeal, it is to be noted that is believed there are no such appeals or interferences known to the applicant.

III. STATUS OF CLAIMS

The status of the claims in this application are:

A. Total Number of Claims in the Application

The claims in the application are: Claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92.

B. Status of All of the Claims

Each of pending claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92 stand as finally rejected under either 35 U.S.C. § 102(e) or § 103(a).

C. Claims on Appeal

The claims on appeal are each of pending claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92.

IV. STATUS OF AMENDMENTS

In the Advisory Action dated June 15, 2006, the Examiner indicated that the Amendment dated May 26, 2006 would be entered. However, the Examiner further indicated that the rejections set forth in the outstanding Office action dated October 25, 2005 would be maintained. In the October 2005 Office action, claims 9-13, 15, 29-33, 35-40, 42, 56, 61, 62, 70, 72, 88-90, 92 and 93 were rejected under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Kugler et al. (6,280,466). Moreover, in the October 2005 Office action, claims 34, 43-46, 48, 49 and 73-79 were rejected under § 103(a) as being unpatentable over Kugler et al.; and claims 41, 87 and 91 were rejected under § 103(a) as being unpatentable over Kugler et al. in view of Dehdashtian et al. (6,368,345).

V. SUMMARY OF CLAIMED INVENTION

As recited in independent claim 9, the present invention is directed towards an endovascular graft for treating vasculature (See page 8, line 2 et seq. of the specification; original

claim 9; and FIGS. 3C-E). Moreover, as shown in FIGS. 1P-T and 3C-E, the endovascular graft includes a graft component 30 including an opening having an opening circumference and a plurality of structures 47 extending longitudinally beyond the opening. The graft further includes an expandable frame 40 and attaching structure (e.g. reference 41) that attaches the expandable frame 40 to the graft component 30 (See also page 19, line 12 et seq.), wherein the expandable frame 40 is longitudinally separated from the graft component 30.

Furthermore, the endovascular graft includes an anchoring structure 86 that anchors the expandable frame 40 to a lumen wall (See page 19, line 21 et seq.). Additionally, the graft embodies first and second legs 133, 134, the first leg portion being attached along its length to the second portion (See page 10, line 5 et seq.; FIG. 3C-E). Moreover, the attaching structure (e.g. reference 41) attaches the expandable frame 40 to the graft component 30 at discrete locations on the graft component so that less than a graft circumference is affixed to the attaching structures and so that the opening to the graft component 30 lacks other structure supporting a totality of the opening circumference (See FIGS. 3C-E).

In the related method, as is recited in independent claim 72, a graft 30 having an opening with an opening circumference and a first expandable frame 40 attached to but longitudinally separated from the graft 30 by an attaching structure (e.g. reference 41), and further including a first leg portion and a second leg portion 133, 134, the first leg portion being attached along its length to the second leg portion (See page 10, line 5 et seq.; FIGS. 3C-E), can be placed within an artery of a patient's vasculature. A second expandable frame 50, 51 can be placed within the artery and placed at least partially within the graft component 30, whereby the frame 50, 51 provides a seal between the graft component 30 and the artery (See original claim 72).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 9-13, 15, 29-33, 35-40, 42, 56, 61, 62, 70, 72, 88-90, 92 and 93 were improperly rejected under 35 U.S.C. § 102(e) or in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Kugler et al.

VII. ARGUMENT

A. Overview

In order for a prior art reference to anticipate a claim under 35 U.S.C. § 102, the reference must teach each and every limitation of the claim. To establish *prima facie* obviousness of a claimed invention under 35 U.S.C. § 103, all the claim limitations must be taught or suggested by the prior art. However, it is respectfully submitted that the cited art neither anticipates or renders obvious the subject matter recited in independent claims 9 and 72 and their respective dependent claims. Moreover, it is respectfully submitted that at least dependent claims 12, 13 88 and 92 recite further subject matter not taught by the cited art.

B. Claims 9 and 72

Independent claim 9 recites an endovascular graft including an expandable frame that is longitudinally separated from a graft component as well as a first leg portion that is attached along its length to a second leg portion. Such an apparatus is depicted in FIGS. 3C-E. Similarly, independent method claim 72 recites placing a graft within an artery, the graft including an expandable frame that is longitudinally separated from a graft component as well as a first leg portion that is attached along its length to a second leg portion. It is respectfully submitted, however, that the cited Kugler et al. reference does not teach such subject matter.

According to the June 15, 2006 Advisory Action, the pending claims have been finally rejected for the same reasons as those set forth in the Office action mailed October 25, 2005. As

an initial matter, it is to be recognized that the October 25, 2005 Office action did not specifically consider now pending claims 9 and 72 which recite the subject matter set forth in cancelled claims 89 and 93, respectively.

With reference to the October 2005 Office action, it is noted that the basis for rejecting claims 89 and 93 was the Examiner's conclusion that Kugler et al. teaches "the first leg portion is attached along its length to the second leg portion." However, the Kugler et al. reference does not teach such structure, but instead teaches branches 14 and 16 which are not attached along their length. In fact, marker 28f is described at being positioned at an upper end of branch 16 (See Col. 7, line 43) and from the specification and drawings of the Kugler et al. reference, it is clear that no portion of branch 16 extending from the upper end thereof is attached to branch 14.

Therefore, it is respectfully submitted that each of independent claims 9 and 72 as well as their respective dependent claims (claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92) recite subject matter which is allowable over the cited Kugler et al. reference. Clearly, Kugler et al. does not anticipate the claims due to the complete lack of any disclosure concerning attaching a first leg portion along its length to a second leg portion. Moreover, due to this complete lack of consideration of this limitation, Kugler et al. also does not render this subject matter obvious.

C. Claims 12 and 13

In the October 2005 Office action, the Examiner rejected claims 12 and 13 under § 102(e) or in the alternative, under § 103(a) in view of the Kugler et al. reference. In doing so, the Examiner stated that, "As to claims 12 and 13, the edge portions of each tab would inherently be wrapped partially around the struts 53a, b, c, d when sutures (at 25) are wrapped around struts and bite into the graft material as described in col. 15, line 37 to col. 16, line 4, resulting in a

folding of each tab to some extent." It is respectfully submitted, however, that this viewpoint is neither described in the specification nor depicted in the drawings of the Kugler et al. patent.

Notably, claim 12 requires the recited tab to be folded "back" and claim 13 recites that the tab be folded over a portion of the attaching structure. Conversely, the Kugler et al. patent teaches employing a "blanket stitch" which is described as involving forming a stitch by encircling a suture about a strut. Kugler et al. therefore does not teach folding graft material over a strut. Moreover, Kugler et al. is concerned with manipulating suture thread precisely around struts (See Col. 15, line 63) and thus does not contemplate "folding of each tab to some extent," as was suggested by the Examiner.

Accordingly, it is respectfully submitted that claims 12 and 13 define further subject matter which is neither anticipated by nor rendered obvious by the cited Kugler et al. reference.

D. Claims 88 and 92

Again with reference to the October 2005 Office action, claim 88 was rejected under § 102(e) or in the alternative, under § 103(a) because the Examiner characterized Kugler et al. as teaching "reinforcing structures, expandable from and anchoring structure are non-overlapping." Significantly, there was no specific discussion of claim 92 in the October 2005 Office action.

As shown in FIGS. 3B and 5 of Kugler et al. it is clear that the struts 40 configured within branches 14 and 16 are not spaced longitudinally so that they are non-overlapping. That is, struts 40 within branch 14 overlap with struts 40 within branch 16. This can be seen from the locations of stitch holes 37 depicted in FIG. 3B. Thus, the struts 40 occupy the same axial location when the Kugler et al. graft is placed within a delivery catheter.

By contrast, the subject recited in claims 88 and 92 require that no two reinforcing structures, expandable frames or anchor structure overlap each other (See FIGS. 3C-E). In this way, the graft of the present invention can be compressed to a relatively low profile within a



delivery catheter because there is a lack of overlapping of for example, stents placed within the legs of the device.

Therefore, it is respectfully submitted that claims 88 and 92 are not anticipated or rendered obvious by the Kugler et al. patent.

Accordingly, it is respectfully submitted that each of pending claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92 are allowable over the cited references.

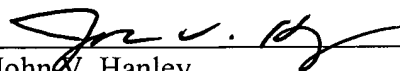
### CONCLUSION

For all the reasons stated above, Applicant respectfully submits that the Examiner has erred in rejecting claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92. It is respectfully requested that the Board reverse the rejection of the claims and pass claims 9-13, 15, 29-46, 48, 49, 56, 61, 62, 70, 72-79, 87, 88, 91 and 92 to issue.

Respectfully submitted,

FULWIDER PATTON LLP

By:



John V. Hanley

Registration No. 38,171

JVH/kst  
Howard Hughes Center  
6060 Center Drive, Tenth Floor  
Los Angeles, CA 90045  
Telephone: (310) 824-5555  
Facsimile: (310) 824-9696  
Customer No. 24201  
138030.1

## VIII. CLAIMS

Claims 1-8 (canceled)

Claim 9 (previously presented): An endovascular graft for treating vasculature, comprising:

a graft component having an opening and a plurality of structures extending longitudinally beyond the opening, the opening having an opening circumference;

an expandable frame;

an attaching structure that attaches the expandable frame to the graft component by engaging at least one of the plurality of structures extending longitudinally beyond the opening;

and

an anchoring structure that anchors the expandable frame to the lumen wall;

a first leg portion and a second leg portion, the first leg portion being attached along its length to the second leg portion;

wherein the expandable frame is longitudinally separated from the graft component;

wherein the attaching structure attaches the expandable frame to the graft component at discrete locations on the graft component so that less than an entirety of a graft circumference is affixed to the attaching structure and wherein the opening of the graft component lacks other structure supporting a totality of the opening circumference.

Claim 10 (previously presented): The graft of claim 9, at least one of the plurality of structures extending beyond the opening is in the form of a tab.

Claim 11 (previously presented): The graft of claim 10, wherein the tab is formed as part of the graft component.

Claim 12 (previously presented): The graft of claim 10, wherein the tab is formed by cutting one of the plurality of structures extending beyond the opening and folding the graft component material back.

Claim 13 (previously presented): The graft of claim 10, wherein the tab is folded over a portion of the attaching structure.

Claim 14 (canceled)

Claim 15 (previously presented): The graft of claim 10 wherein the tab is reinforced by sutures.

Claims 16-28 (canceled)

Claim 29 (previously presented): The graft of claim 9, wherein the graft component is bifurcated.

Claim 30 (previously presented): The graft of claim 9, wherein the expandable frame is self-expanding.

Claim 31 (previously presented): The graft of claim 9, wherein the anchoring structure comprises a hook or barb.

Claim 32 (previously presented): The graft of claim 31, wherein the hook or barb is curved.

Claim 33 (previously presented): The graft of claim 31, wherein the hook or barb is tapered.

Claim 34 (previously presented): The graft of claim 31, wherein the hook or barb is bidirectional.

Claim 35 (previously presented): The graft of claim 31, the hook or barb further comprising a tail.

Claim 36 (previously presented): The graft of claim 31, the hook or barb cut at the edge of a stent strut of the anchoring structure.

Claim 37 (previously presented): The graft of claim 31, the hook or barb located near the junction of stent struts of the anchoring structure.

Claim 38 (previously presented): The graft of claim 9, the graft component further comprising reinforcing structures.

Claim 39 (previously presented): The graft of claim 38, wherein the reinforcing structures are self-expanding.

Claim 40 (previously presented): The graft of claim 38, wherein a reinforcing structure is in the form of a stent.

Claim 41 (previously presented): The graft of claim 38, wherein a reinforcing structure is on an exterior of the graft component.

Claim 42 (previously presented): The graft of claim 38, wherein a reinforcing structure is on an interior of the graft component.

Claim 43 (previously presented): The graft of claim 42, wherein a reinforcing structure comprises a hook or barb.

Claim 44 (previously presented): The graft of claim 43, wherein the hook or barb is curved.

Claim 45 (previously presented): The graft of claim 43, wherein the hook or barb is tapered.

Claim 46 (previously presented): The graft of claim 43, wherein the hook or barb is bidirectional.

Claim 47 (canceled)

Claim 48 (previously presented): The graft of claim 43, the hook or barb cut at the edge of a strut of the reinforcing structure.

Claim 49 (previously presented): The graft of claim 43, the hook or barb located near the junction of struts of the reinforcing structure.

Claims 50-55 (canceled)

Claim 56 (previously presented): The graft of claim 9, further comprising a plurality of radiopaque markers.

Claims 57-60 (canceled)

Claim 61 (previously presented): The graft of claim 9, the expandable frame further including a plurality of endpoints, certain of said plurality of endpoints being offset from other of said plurality of endpoints.

Claim 62 (previously presented): The graft of claim 9, the expandable frame further including endpoints that are larger than a strut thickness of the expandable frame.

Claims 63-69 (canceled)

Claim 70 (previously presented): The graft of claim 9, further comprising a system of variable sized radiopaque markers attached to the graft component.

Claim 71 (canceled)

Claim 72 (previously presented): A method of treating a patient's vasculature, comprising:

placing a graft within an artery, the graft having a graft component having an opening with an opening circumference and a first expandable frame attached to but longitudinally separated from the graft component by an attaching structure, the graft further having a first leg portion and a second leg portion, the first leg portion being attached along its length to the

second leg portion, wherein the attaching structure attaches the first expandable frame to the graft component at discrete locations on the graft component so that less than an entirety of a graft circumference is affixed to the attaching structure wherein the opening lacks other structure supporting a totality of the opening circumference; and

placing a second expandable frame within the artery, the second frame placed at least partially within the graft component;

whereby the second expandable frame provides a seal between the graft component and the artery.

Claim 73 (previously presented): The method of claim 72, wherein the second expandable frame comprises a hook or barb.

Claim 74 (previously presented): The method of claim 73, wherein the hook or barb is curved.

Claim 75 (previously presented): The method of claim 73, wherein the hook or barb is tapered.

Claim 76 (previously presented): The method of claim 73, wherein the hook or barb is bidirectional.

Claim 77 (previously presented): The method of claim 73, the hook or barb further comprising a tail.

Claim 78 (previously presented): The method of claim 73, the hook or barb cut at the edge of a strut of the expandable frame.

Claim 79 (previously presented): The method of claim 73, the hook or barb located near the junction of struts of the expandable frame.

Claims 80-86 (canceled)

Claim 87 (previously presented): The graft of claim 9, further comprising stent structures attached to both an inside surface and an outside surface of the graft component.

Claim 88 (previously presented): The graft of claim 9, further comprising a plurality of reinforcing structures attached to the graft component, wherein the plurality of reinforcing structures, the expandable frame and the anchoring structure are each spaced longitudinally along the graft component so that the reinforcing structures, expandable frame and anchoring structure are non-overlapping.

Claim 89-90 (canceled)

Claim 91 (previously presented): The method of claim 72, wherein the graft component further comprises stent structures attached to both an inside surface and an outside surface of the graft component.

Claim 92 (previously presented): The method of claim 72, wherein there are a plurality of reinforcing structures attached to the graft component, wherein the plurality of reinforcing structures, the first expandable frame and the second expandable frame are each spaced longitudinally along the graft component so that the reinforcing structures, first expandable frame and second expandable frame are non-overlapping.

Claim 93 (canceled)

#### IX. EVIDENCE APPENDIX

NONE

#### X. RELATED PROCEEDINGS APPENDIX

NONE